



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/827,022	04/19/2004	B. Raghava Reddy	HES 2003-IP-012018U1	2519
28857	7590	03/05/2008		
CRAIG W. RODDY HALLIBURTON ENERGY SERVICES P.O. BOX 1431 DUNCAN, OK 73536-0440			EXAMINER COY, NICOLE A	
			ART UNIT 3672	PAPER NUMBER
			MAIL DATE 03/05/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/827,022	Applicant(s) REDDY ET AL.	
	Examiner NICOLE COY	Art Unit 3672	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 January 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, 5, 6, 8-16 and 36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5, 6, 8-16, 36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 2, 8-16, and 36 are rejected under 35 U.S.C. 102(b) as being anticipated by Chatterji et al. (USP 5,688,844).

With respect to claim 1, Chatterji discloses a method of servicing a wellbore in contact with a subterranean formation, comprising: displacing a sealant composition comprising a colloiddally stabilized latex into the wellbore (see column 4 lines 40-64); wherein the sealant composition does not comprise zinc oxide, wherein the colloiddally stabilized latex comprises a polymer, and wherein the polymer comprises an ethylenically unsaturated surfactant (see column 5 lines 15-50).

With respect to claim 2, Chatterji discloses that the colloiddally stabilized latex comprises: an aliphatic conjugated diene monomer; an additional monomer comprising a non-aromatic unsaturated mono- or di-carboxylic ester monomer, an aromatic unsaturated monomer, a nitrogen-containing monomer, or combinations thereof; and a protective colloid (see column 4 lines 40-64).

With respect to claim 8, monovalent ion, a divalent ion, or combinations thereof are well known salts found in wellbores and they would inherently be present.

With respect to claim 9, Chatterji discloses that the sealant composition comprises salt (see column 5 lines 51-52).

With respect to claim 10, Chatterji discloses that the sealant compositions comprises fibers, beads or combinations thereof (wherein the polymer would inherently be in the form of fibers or beads).

With respect to claim 11, Chatterji discloses that the sealant composition comprises a cement slurry (see column 6 lines 35-48).

With respect to claim 12, Chatterji discloses that the sealant composition is displaced into an annulus and allowed to set (see column 1 lines 6-9).

With respect to claim 13, Chatterji discloses that the sealant composition is positioned in the wellbore to isolate the subterranean formation from a portion of the wellbore, to support a conduit in the wellbore, to plug a void or crack in the conduit, to plug a void or crack in a cement sheath disposed in an annulus of the wellbore, to plug an opening between the cement sheath and the conduit, or combinations thereof (see column 1 lines 11-29).

With respect to claim 14, Chatterji discloses the colloiddally stabilized latex comprises a vulcanizable group, a vulcanizing agent, a vulcanization accelerator, a vulcanization retarder, or combinations thereof (see column 3 lines 57-60; wherein sulfur is a vulcanizing agent).

With respect to claim 15, Chatterji discloses that the colloiddally stabilized latex comprises a crosslinkable monomer, an acidic catalyst, a thermosetting resin, or combinations thereof (see column 4 lines 41-54).

With respect to claim 16, Chatterji discloses combining a drilling fluid with the sealant composition near a loss-circulation zone, thereby forming a solid mass in the loss-circulation zone (see column 1 lines 11-29).

With respect to claim 36, Chatterji discloses that the collooidally stabilized latex remains substantially stable in the presence of salt (wherein the latex in Chatterji would inherently remain stable in the presence of salt because it is stabilized by the third monomer mentioned in column 4 lines 55-64).

3. Claims 1, 2, 6, 8-12, 13-16, and 36 are rejected under 35 U.S.C. 102(b) as being anticipated by Griffith et al. (USP 6,448,206).

With respect to claim 1, Griffith et al. discloses a method of servicing a wellbore in contact with a subterranean formation, comprising: displacing a sealant composition comprising a collooidally stabilized latex into the wellbore (see column 4 lines 25-39), wherein the sealant composition does not comprise zinc oxide, wherein the collooidally stabilized latex comprises a polymer, and wherein the polymer comprises an ethylenically unsaturated surfactant (see column 7 line 53 to column 8 line 59), a functionalized silane (see column 9 line 7-20), or combinations thereof.

With respect to claim 2, Griffith et al. discloses that the collooidally stabilized latex comprises: an aliphatic conjugated diene monomer (see column 6 line 48 to column 7 line 2); an additional monomer comprising a non-aromatic unsaturated mono- or dicarboxylic ester monomer, an aromatic unsaturated monomer, a nitrogen-containing

Art Unit: 3672

monomer, or combinations thereof (see column 6 line 48 to column 7 line 2); and a protective colloid (see column 2 line 65, wherein the surfactant is a protective colloid).

With respect to claim 6, Griffith et al. discloses that the colloidally stabilized latex comprises a functionalized silane generally represented by the formula as claimed by applicant (see column 9 line 7-20).

With respect to claim 9, Griffith et al. discloses that the sealant composition comprises salt (see column 8 lines 33-34).

With respect to claim 10, Griffith et al. discloses that the sealant composition comprises fibers, beads, or combinations thereof (wherein the polymer would be in the form fibers or beads).

With respect to claim 11, Griffith et al. discloses that the sealant composition comprises a cement slurry (see column 9 lines 21-45).

With respect to claim 13, Griffith et al. discloses the sealant composition is positioned in the wellbore to isolate the subterranean formation from a portion of the wellbore, to support a conduit in the wellbore, to plug a void or crack in the conduit, to plug a void or crack in a cement sheath disposed in an annulus of the wellbore, to plug an opening between the cement sheath and the conduit, or combinations thereof (see the abstract).

With respect to claim 14, Griffith et al. discloses that the colloidally stabilized latex comprises a vulcanizable group, a vulcanizing agent, a vulcanization accelerator, a vulcanization retarder, or combinations thereof (see column 9 lines 21-45).

With respect to claim 15, Griffith et al. discloses that the colloiddally stabilized latex comprises a crosslinkable monomer, an acidic catalyst, a thermosetting resin, or combinations thereof (see column 9 lines 21-45, wherein the polymer can be crosslinked).

With respect to claim 16, Griffith et al. discloses a drilling fluid with the sealant composition near a loss-circulation zone, thereby forming a solid mass in the loss-circulation zone (see column 2 line 64 to column 3 line 10).

With respect to claim 36, Griffith et al. discloses that the colloiddally stabilized latex remains substantially stable in the presence of salt (wherein the latex in Griffith would inherently remain stable in the presence of salt because it is stabilized by the third monomer mentioned in column 4 lines 40-49).

With respect to claim 8, monovalent ion, a divalent ion, or combinations thereof are well known salts found in wellbores and would be present.

With respect to claim 12, Griffith et al. discloses that the sealant composition is displaced into an annulus of the wellbore and allowed to set.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 3672

5. Claims 3, 5, 8, 12, and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chatterji in view of Krishnan (USP 5,900,451).

With respect to claim 3, Chatterji does not disclose that the protective colloid comprises polyvinylalcohol, a cellulose ether, a natural gum, a synthetic gum, polyacrylic acid, an acrylate, a poly(vinyl alcohol)co(vinyl amine) copolymer, or combinations thereof. Krishnan et al. teaches adding protective colloids, such as polyvinylalcohol, a cellulose ether, a natural gum, a synthetic gum, polyacrylic acid, an acrylate, a poly(vinyl alcohol)co(vinyl amine) copolymer, to a latex because of the rheology and tack properties. It would have been obvious to modify Chatterji by adding a protective colloid as noted above, because of the rheology and tack properties of systems with said protective colloids, which increases the tackiness of the emulsion (see column 1 lines 26-30).

With respect to claim 5, Chatterji does not disclose that the colloidally stabilized latex comprises an oxyalkylene functional monomer. Krishnan et al. discloses an oxyalkylene monomer in order to add stability to the polymer. It would have been obvious to modify Chatterji by including an oxyalkylene monomer as taught by Krishnan et al. in order to add stability to the polymer.

With respect to claim 36, if it is the specific colloid listed in claim 3 that makes the latex stable in the presence of salt, due to the added protective colloids of Krishnan, the stabilized latex would remain stable in the presence of salt, as the latex of Chatterji in view of Krishnan is substantially similar to the latex claimed.

With respect to claim 8, monovalent ion, a divalent ion, or combinations thereof are well known salts found in wellbores and they would be present.

With respect to claim 12, Chatterji discloses that the sealant composition is displaced into an annulus and allowed to set (see column 1 lines 6-9).

6. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chatterji in view of Griffith et al. (USP 6,448,206).

With respect to claim 6, Chatterji does not disclose a functionalized silane. Griffith et al. teaches adding a functionalized silane represented by the formula as claimed by Applicant in order to strengthen the bond between subterranean formations surfaces and the hardened sealing compositions. See column 9 lines 7-20. It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Chatterji by including a silane as taught by Griffith et al. in order to strengthen the bond between subterranean formation surfaces and the hardened sealing compositions.

7. Claims 3, 5, 8, 12, and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grittith et al. in view of Krishanan et al. (USP 5,900,251).

With respect to claim 3, Griffith et al. does not teach that the protective colloid comprises polyvinylalcohol, a cellulose ether, a natural gum, a synthetic gum, polyacrylic acid, an acrylate, a poly(vinyl alcohol)co(vinyl amine) copolymer, or combinations thereof. Krishnan et al. teaches adding protective colloids, such as polyvinylalcohol, a cellulose ether, a natural gum, a synthetic gum, polyacrylic acid, an

Art Unit: 3672

acrylate, a poly(vinyl alcohol)co(vinyl amine) copolymer, to a latex because of the rheology and tack properties. It would have been obvious to modify Grifith et al. by adding a protective colloid as noted above, because of the rheology and tack properties of systems with said protective colloids.

With respect to claim 5, Griffith et al. does not disclose that the colloiddally stabilized latex comprises an oxyalkylene functional monomer. Krishnan et al. discloses an oxyalkylene monomer in order to add stability to the polymer. It would have been obvious to modify Griffith et al. by including a oxyalkylene monomer as taught by Krishnan et al. in order to add stability to the polymer.

With respect to claim 36, if it is the specific colloid listed in claim 3 that makes the latex stable in the presence of salt, due to the added protective colloids of Krishnan, the stabilized latex would remain stable in the presence of salt, as the latex of Griffith in view of Krishnan is substantially similar to the latex claimed.

With respect to claim 8, monovalent ion, a divalent ion, or combinations thereof are well known salts found in wellbores and would be present.

With respect to claim 12, Griffith et al. in view of Krishnan et al. discloses that the sealant composition is displaced into an annulus of the wellbore and allowed to set.

Response to Arguments

8. Applicant's arguments filed 1/11/08 have been fully considered but they are not persuasive. Applicant argues that Chatterji does not disclose a colloiddally stablized latex comprising ethylenically unsaturated surfactant, a functionalized silane or

combinations thereof, because Chatterji teaches a third monomer is utilized to stabilize its emulsions. However, as noted above, Chatterji discloses an ethylenically unsaturated surfactant. There is nothing in the claim that excludes Chatterji's third monomer and Chatterji's ethylenically unsaturated surfactant. Thus, the claim is not in condition for allowance.

Furthermore, as noted in the advisory action, Applicant has deleted the negative limitation of "does not comprise an epoxy resin" the very amendment that was put in to overcome the Griffith reference. Accordingly, the claims now read over Griffith as well, as noted above.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to NICOLE COY whose telephone number is (571)272-5405. The examiner can normally be reached on M-F 7:30-5:00, 1st F off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bagnell can be reached on 571-272-6999. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3672

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/William P Neuder/
Primary Examiner, Art Unit 3672

nac